

Innovative High Efficiency Filter for Mars Dust, Phase I

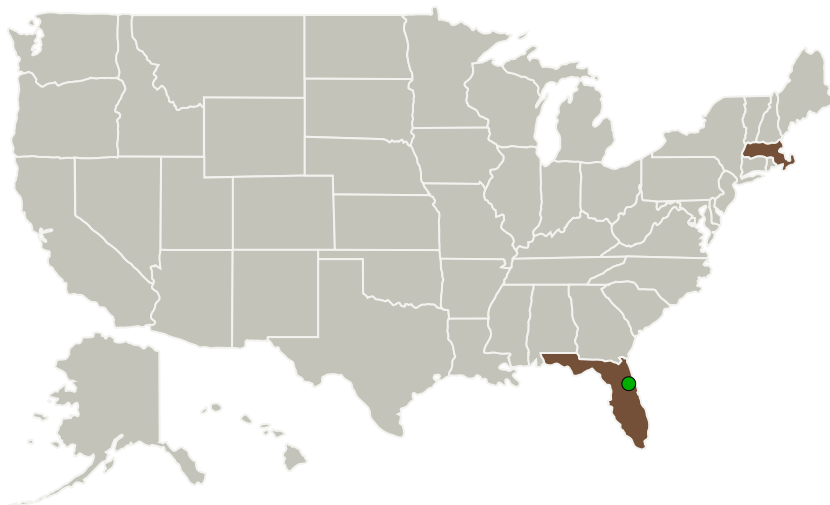
Completed Technology Project (2014 - 2014)



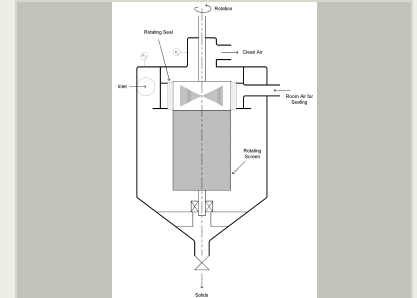
Project Introduction

To reduce the cost of space travel, NASA is developing In-Situ Resource Utilization (ISRU) methods to collect and convert local resources into products that can be used during the mission. Towards this objective, BlazeTech is proposing the development of an innovative system to filter Mars dust from gas streams. Our system combines the cyclone concept with a spinning and cylinder that acts as a self cleaning filter. The main advantages of the proposed device over conventional systems are the self-cleaning aspect of the filter surface a reduction in pressure drop and volume requirements. This makes the concept particularly suitable for NASA's requirements which include a modest throughput but a high capture efficiency of the fine particles.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Blazetech Corporation	Lead Organization	Industry	Woburn, Massachusetts
● Kennedy Space Center(KSC)	Supporting Organization	NASA Center	Kennedy Space Center, Florida



Innovative high efficiency filter for Mars dust Project Image

Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Project Transitions	2
Images	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	3
Target Destinations	3

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Primary U.S. Work Locations

Florida

Massachusetts

Project Transitions

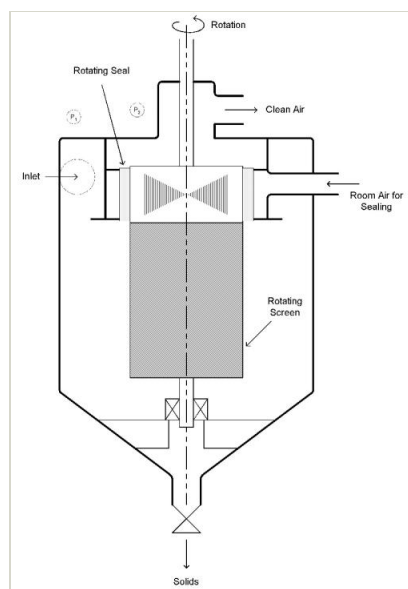
June 2014: Project Start

December 2014: Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/140519>)

Images



Project Image

Innovative high efficiency filter for Mars dust Project Image
(<https://techport.nasa.gov/image/130411>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Blazetech Corporation

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

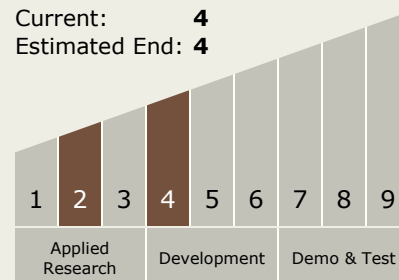
Carlos Torrez

Principal Investigator:

Albert Moussa

Technology Maturity (TRL)

Start: 2
Current: 4
Estimated End: 4



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Technology Areas

Primary:

- TX07 Exploration Destination Systems
 - └ TX07.1 In-Situ Resource Utilization
 - └ TX07.1.3 Resource Processing for Production of Mission Consumables

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System